UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,285	03/26/2004	Itsuki Kajino	P/1250-274	2166

2352 7590 05/30/2008

OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

EXAMINER	
MACARTHUR, SYLVIA	

ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
05/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,285	KAJINO ET AL.	
	Examiner	Art Unit	
	Sylvia R. MacArthur	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-8 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-8 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/13/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1) Applicant's arguments with respect to claims 3-8 and 22 have been considered but are moot in view of the new ground(s) of rejection as necessitated by the amendment of claim 3 and the introduction of the prior art in the IDS mailed 2/13/2008.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 3-5, 7,8, and 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kajino et al (US 6,793,769).

Regarding claims 3: Kajino et al teaches a substrate processing apparatus. The apparatus comprises a holding element (holding pins 4), a rotation element (plate-like spin base 3), an atmosphere cutoff plate (atmosphere shielding part 60), a splash prevention element including recovery ducts 22a-c, a plurality of guiding members including upper and lower guide members (30) and a selection element as discussed in col. 6 lines 53-col. 7 line 26.

Kajino et al further teaches the spacing of the guide members in col.6 lines 46-65. A discussion of the use of the selection element is cited in col. 6 line 53- col. 7 line 52. The proximity of the guiding member, recovery duct cut off plate, and rotating base is illustrated in Fig.1 and col. 10 lines 4-14. The prior art does not specifically teach that a vertical thickness of the atmosphere

cutoff plate is greater than a vertical thickness of the upper guide member and a vertical thickness of the rotating bases is greater than a vertical thickness of the lower guide member. These recitations are interpreted as a matter of optimization and how the upper/lower guide members, cutoff plate, and recovery ducts are adjusted, sized, and/or dimensioned. The courts have held that where the only difference between the prior art and the claimed is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In re Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 US 830, 225 USPQ 232 (1984). Additionally, where the general conditions of the claim are disclosed (in this case the structurally components are present in the prior art), it is not inventive to discover the optimum or workable ranges by routine experimentation. It would have been obvious to one have ordinary skill in the art to have determined the optimum values of the relevant parameters through routine experimentation in the absence of a showing of criticality, In re Aller, 220 F. 2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Note the height of the guide member is adjustable and thus setting the height "not higher" than the level of a top surface of the atmosphere cutoff plate is also a matter of optimization as recited above. Regarding the control unit, Kajino et al teaches that the control unit 50controls the movement of thee cutoff plate, spin chuck and recovery ducts see Fig.4. See also the Figures where the various arrangement of cutoff plate to recovery duct heights are shown.

The motivation to provide the structural components at the specified dimensions is that the recovery ducts will work at optimal capacity to ensure the treatment fluids are exhausted from the system in a selective manner as intended. Thus, it would have been obvious at the time

of the claimed invention to optimize the thickness of the cutoff plate and rotating base along with the dimension of the vertical opening as recited.

Regarding claim 4: See Fig. 1.

Regarding claim 5: See element 23 of Fig.1.

Regarding claim 7: The rotating base and atmosphere cut-off plate each have a disk-like shape and the edge portions facing recovery ducts are vertical side surfaces see Fig. 1 that spin chuck 1 has a plate-like disk-like shape and the respective edge portions facing a plurality of recovery ducts are vertical side surfaces see col. 5 line 35, see also Fig.1

Regarding claim 8: See Fig. 1.

Regarding claim 22: Note the height of the guide member is adjustable and thus setting the height "not higher" than the level of a top surface of the atmosphere cutoff plate is also a matter of optimization as recited above.

4. Claims 3-5, 7-11, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi Hideki (JP 11-087294) using the English Translation of the Foreign provided by applicant in the IDS of 2/13/2008.

Hideki teaches a substrate processing apparatus. The apparatus comprises a holding element (substrate attachment components 4), a rotation element (spin base 3), an atmosphere cutoff plate (atmosphere shielding member 60), a splash prevention element including recovery ducts 22a-c, a plurality of guiding members (30) and a selection element as discussed in section [0044]. The prior art does not specifically teach that a vertical thickness of the atmosphere cutoff plate is greater than a vertical thickness of the upper guide member and a vertical thickness of the rotating bases is greater than a vertical thickness of the lower guide member. These recitations

are interpreted as a matter of optimization and how the upper/lower guide members, cutoff plate, and recovery ducts are adjusted, sized, and/or dimensioned. The courts have held that where the only difference between the prior art and the claimed is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In re Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 US 830, 225 USPQ 232 (1984). Additionally, where the general conditions of the claim are disclosed (in this case the structurally components are present in the prior art), it is not inventive to discover the optimum or workable ranges by routine experimentation. It would have been obvious to one have ordinary skill in the art to have determined the optimum values of the relevant parameters through routine experimentation in the absence of a showing of criticality, In re Aller, 220 F. 2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Note the height of the guide member is adjustable and thus setting the height "not higher" than the level of a top surface of the atmosphere cutoff plate is also a matter of optimization as recited above. Furthermore, see Figures of Adachi Hideki wherein the heights required are suggested specifically in Figs. 2 and 8.

Regarding the control unit, Kajino et al teaches that the control unit 50controls the movement of thee cutoff plate, spin chuck and recovery ducts see Fig.4. See also the Figures where the various arrangement of cutoff plate to recovery duct heights are shown.

The motivation to provide the structural components at the specified dimensions is that the recovery ducts will work at optimal capacity to ensure the treatment fluids are exhausted from the system in a selective manner as intended. Thus, it would have been obvious at the time

of the claimed invention to optimize the thickness of the cutoff plate and rotating base along with the dimension of the vertical opening as recited.

Regarding claims 3 Hideki teaches the spacing of the guide members in the abstract. A discussion of the use of the selection element is cited in section [0044] and in claim 3. The proximity of the guiding member, recovery duct cut off plate, and rotating base is illustrated in Figs.1 and 7, see also the abstract.

Regarding claims 4 and 10 See Fig. 1.

Regarding claims 5 and 11 See Fig.1.

Regarding claim 7: The rotating base and atmosphere cut-off plate each have a disk-like shape and the edge portions facing recovery ducts are vertical side surfaces see Fig. 1 that spin chuck 1 has a plate-like disk-like shape and the respective edge portions facing a plurality of recovery ducts are vertical side surfaces see Fig.1

Regarding claim 8: See Fig. 1.

Regarding claims 22: Note the height of the guide member is adjustable and thus setting the height "not higher" than the level of a top surface of the atmosphere cutoff plate is also a matter of optimization as recited above.

5. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi Hideki in view of Tsuchiya et al (6,810,888).

The teachings of Hideki were discussed above.

Hideki fails to teach a suck element.

Tsuchiya et al teaches a sucking element in col. 7 lines 9-38 and col. 8 lines 33-55. The motivation to provide the sucking element in the recovery ducts is it ensures a reduced pressure to be maintained in the fluid flow paths 36.

Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide a suck element in the recovery ducts as taught by Tsuchiya et al in the apparatus of Hideki et al.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Additionally, Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 2/13/2008 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-Th during the hours of 8 a.m. and 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 27, 2008

/Sylvia R MacArthur/
Primary Examiner, Art Unit 1792